Received
Planning Division
7/13/2022

TERAGAN & ASSOCIATES, INC.
ARBORICULTURAL CONSULTANTS

MEMORANDUM

DATE: May 24, 2022

TO: Habib Matin (Emerald Engineering & Construction Company)

FROM: Todd Prager, RCA #597, ISA Board Certified Master Arborist

RE: Updated Tree Plan for Scholls Ferry Apartments

Purpose

This is the updated tree plan for the Scholls Ferry Apartments to be constructed at 15584 SW Scholls Ferry Road in Beaverton, Oregon. This report describes the existing trees located on the site, as well as recommendations for tree removal, preservation, mitigation, and protection during construction. Findings for the Tree Plan Two approval criteria in section 40.90.15.2.C.1-13 of the Beaverton Development Code are also provided. In conjunction with the site plans and graphics provided by others for the Tree Plan Two application, this report will satisfy the tree related requirements in City of Beaverton Development Code Chapters 40.90 and 60.60.

This report has been updated from my March 17, 2022 report to address the following completeness items from the City of Beaverton's May 13, 2022 letter:

- Eliminate conflicting findings to clarify that trees 313 and 314 will be preserved; and
- Revise exempt tree classifications consistent with code exemptions.

Summary

A total of 220 trees were inventoried at the site of the Scholls Ferry Apartments to be constructed at 15584 SW Scholls Ferry Road in Beaverton, Oregon. Of these trees, 165 are categorized as significant tree grove trees that are part of grove NX-4 and 55 are exempt trees because they are less than 10-inch DBH, hazardous, dead, or diseased[1], nuisance species, offsite, or failed.

[1] In my March 17, 2022 report I included "unhealthy" trees as exempt. However, the more precise term for the exemption is "dead, hazardous, or diseased" per section 40.90.10.2 of the Beaverton Development Code. The classification of "unhealthy" trees has been revised to "dead, hazardous, or diseased" in this updated report.

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The 165 significant tree grove trees comprise a total of 3,576 trunk diameter (DBH) inches. One hundred and twenty-eight (128) trees comprising 2,818 inches (78.8 percent) of DBH are proposed for removal and 37 trees comprising 758 inches (21.2 percent) of DBH are proposed for retention.

Since greater than 50 percent of the total significant tree grove DBH is proposed for removal, 1,030 inches (the amount of inches over the 50 percent threshold) are required for mitigation. If all mitigation tree planting occurs onsite, only 515 inches of mitigation is required. If mitigation occurs offsite and/or a fee in lieu is provided, all 1,030 inches will be required to be mitigated. The mitigation plan will be provided by others on the project team.

The Tree Plan Two requirements apply because less than 85 percent of the significant tree grove DBH is proposed for removal. Findings for the Tree Plan Two approval criteria are provided in this report. The Tree Plan Two graphical requirements will be provided by others on the project team

Site Description

The Scholls Ferry Apartments site is comprised of one lot occupied by a single-family home in the Town Center - High Density Residential (TC-HDR) zone which is part of the Multiple Use zoning district.

The entire site is mapped with a significant tree grove (NX-4) overlay. The significant tree grove extends onto the properties to the south, north, and east of the site. The properties to the west of the site are developed with single family homes, the property to the north is developed with apartments and parking, the property to the east is common open space for the adjacent townhome development, and the property to the south is primarily an undeveloped stream corridor.

The site is comprised of a mix of native, non-native, and nuisance tree species. The northern portion of the site is reflective of a Douglas-fir (*Pseudotsuga menziesii*) dominated forest typical of the Willamette Valley, while the southern portion of the site is dominated by wetland species such as Oregon ash (*Fraxinus latifolia*) and black cottonwood (*Populus trichocarpa*). Based on direction from City staff in 2021 for this project, all non-exempt trees within grove NX-4 are considered significant tree grove trees.

The preliminary site plan for the development consists of several apartment buildings, associated parking, accessways, pedestrian walkways, and other site improvements. The preliminary site plan with tree removal and retention locations is provided in Attachment 1.

My site visit was conducted on December 12, 2019, to collect individual tree data and evaluate the trees in terms of potential impacts from site development. I visited the site again on April 20, 2021, to assess trees along the north property line and within and near the Trillium Woods Apartments access easement. I conducted another follow up site visit on April 29, 2021 with Jered Lane, Beaverton City

Arborist, to determine the required protection measures for trees 313, 314 and 315 at the north property line.

Tree Inventory

A total of 220 trees were inventoried at the site. A complete description of the individual trees is provided in the tree inventory in Attachment 2. The data collected for each tree includes the tree species (common and scientific names), whether the tree is deciduous or coniferous, DBH, crown radius, health condition, structural condition, pertinent comments, and treatment (remove/retain).

Each tree has also been assigned a number in the tree inventory which can be cross referenced to the number on the preliminary site plan in Attachment 1. In cases where trees were assessed as part of the Trillium Woods Apartments project to the north, the tree number from the Trillium Woods project is provided. In addition, each tree is labeled with a tree category consistent with its respective definition in the Beaverton Development Code. This allows for mitigation requirements to be determined for each category of tree as required by the code. Table 1 provides a summary of the tree inventory by tree category.

Table 1. Summary of Tree Inventory by Tree Category

Tree Category	Total Number of Trees
Significant Tree Grove Tree	165
Exempt Tree[2]	55
Total	**220**

Tree Plan Recommendations

A typical minimum tree protection zone allows encroachments no closer than a radius from a tree of .5 feet per inch of DBH if no more than 25 percent of the root protection zone area (estimated at one foot radius per inch of DBH) is impacted. Figure 1 illustrates this concept.

Attachment 1 shows the preliminary plan for site improvements in relation to the existing trees. Due to the intensity of site improvements, it will be necessary to remove trees toward the northern and central portions of the site because they are either within the footprint of improvements or would have impacts well within their recommended root protection zones.

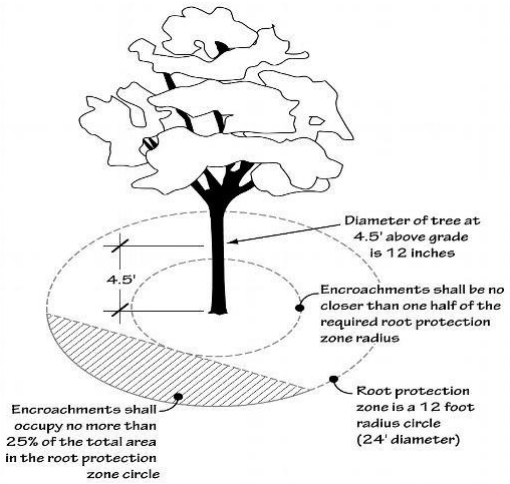


Figure 1: Typical minimum protection zone

[2] Exempt trees include hemlock, madrone, and bigleaf maples less than 6-inch DBH, any other species less than 10-inch DBH, trees listed a nuisance species on the Metro Native Plant List (Ord. No. 98-730C), trees producing edible fruits, hazardous, dead, or diseased trees (trees with a condition rating of very poor or poor), offsite trees, and stumps.

The remaining trees along the southern end of the site and on the north and east property lines can be retained and protected according to the Tree Protection Recommendations section of this report. The focus of the protection efforts is on the trees within the existing wetland to be retained as well as trees on the north and east property lines.

The site trees selected for retention have been carefully assessed and are either not high risks to existing or proposed targets, and/or have characteristics such as adequate live crown ratios and trunk taper indicative of trees that can adapt to increased exposure from tree removal with the development. A level 1 tree risk assessment of neighboring trees was conducted from offsite and they appear to either not be probable failures risks, and/or there are mitigating circumstances that allow for their preservation. However, the retained trees should be reassessed and monitored after site clearing to ensure they are properly adapting to the changes from increased exposure and/or do not pose high risks. Note that offsite trees 313 and 314 to the north of the site will not be removed at the request of the property owner. These trees will be monitored throughout construction so that potential risks can be appropriately identified and addressed.

As more fully described in the following Tree Mitigation section, a total of 1,030 inches of mitigation tree planting is required. If all the mitigation planting can occur onsite, only 515 inches (482 coniferous inches and 33 deciduous inches) of mitigation will be required. There may be room for mitigation planting within some of the open space areas, but the species of mitigation trees should be selected so they are appropriate for the site conditions and do not conflict with site improvements as they grow to maturity. The mitigation plan will be provided by others on the project team.

Tree Mitigation

In order to accommodate proposed development, the removal of significant tree grove trees is required. The following is a summary of mitigation requirements for significant tree grove trees consistent with the requirements in the Beaverton Development Code.

Significant Tree Grove Trees	
Total DBH of Sig. Tree Grove Trees:	3,576 in.
Total DBH of Sig. Tree Grove Trees Proposed for Removal:	2,818 in.
Percentage of Sig. Tree Grove DBH Proposed for Removal:	78.8%
Coniferous DBH Proposed for Removal:	2,636 in. (93.5%)
Deciduous DBH Proposed for Removal:	182 in. (6.5%)
Total Mitigation Required for Sig Tree Grove Trees:	**1,030 in.**[3]

[3] When the total DBH of trees to be removed is greater than 50% of the total DBH of surveyed trees on site, then mitigation is required for the amount of DBH to be removed that exceeds 50% of the total DBH of surveyed trees on site. Two thousand eight hundred and eighteen (2,818) inches is the total amount of DBH to be removed from the site and 1,788 inches of DBH represents 50% of the

Total Coniferous Mitigation Required:	**963 in. (93.5%)**
Total Deciduous Mitigation Required:	**67 in. (6.5%)**

Total Mitigation Required if All Mitigation Planting is Onsite:	**515 in.**[4]
Total Coniferous Mitigation Required if All Onsite:	**482 in. (93.5%)**
Total Deciduous Mitigation Required if All Onsite:	**33 in. (6.5%)**

Significant Tree Grove Tree Mitigation Requirements:

- All mitigation tree planting shall take place in conformance with accepted arboricultural practices and shall be spaced a minimum of ten (10) feet apart.
- All trees planted for the purpose of tree removal mitigation shall be maintained in accordance with the approved mitigation plan. Monitoring of mitigation planting shall be the ongoing responsibility of the property owner where mitigation trees are located, unless otherwise approved through Development Review. Monitoring shall take place for a period of two (2) years. Trees that die shall be replaced in accordance with the tree replacement standards of this section.
- All trees planted for the purpose of tree removal mitigation shall be set aside in a conservation easement or a separate tract and shall be designated as "Mitigation Trees" and recorded with a deed restriction identifying the trees as "Mitigation Trees".
- Each Mitigation Tree planted shall be insured through a performance security, equal to 110 percent of the cost of the landscaping, filed with the City for a period of two (2) years to ensure establishment of the mitigation planting.
- Street trees shall not be counted as providing mitigation.
- Deciduous trees shall be replaced with deciduous trees that are no less than two caliper inches (2") in diameter.
- Coniferous trees shall be replaced with coniferous trees that are no less than three feet (3') in height and no more than four feet (4') in height. A three foot (3') mitigation tree shall equate to 2" DBH and four foot (4') mitigation tree will equate to 3" DBH.

Community Trees
No community trees are present at the site.

Tree Protection Recommendations

The standard tree protection requirement in the City of Beaverton Code is to protect trees at five feet beyond the driplines.

A typical alternative minimum protection zone allows encroachments no closer than a radius from a tree of .5 feet per inch of DBH if no more than 25 percent of the root

total surveyed DBH, so 1,030 inches of DBH is the total required amount of mitigation.
[4] For tree removal proposals which remove more than 50% and up to and including 85% of the surveyed non-exempt DBH, if all mitigation tree planting is to occur on-site, the ratio for planting shall be on a 2:1 basis.

protection zone area (estimated at one foot radius per inch of DBH) is impacted. Figure 1 illustrates this concept.

The reason for using this alternative is because it allows the tree protection zone to better relate to the size of the tree and its root zone. Tree driplines can be highly variable based on species growth habits and onsite conditions such as the presence of adjacent trees or past pruning.

The root zone radii are shown for the trees to be retained along the edges of the development on the plan sheet in Attachment 1.

The tree protection fencing shown in Attachment 1 achieves the minimum protection requirements for the trees to be retained wherever possible. Note that tree protection fencing has been redlined in Attachment 1 where additional root protection is required or to allow for construction of the retaining wall at the southern end of the site. The following site-specific recommendations will help to minimize construction impacts for the trees to be retained:

Tree 562:
Tree 562 will have an existing garage demolished within its recommended root protection zone. The project arborist shall be onsite to oversee demolition of the garage adjacent to tree 562 to ensure the existing soil grade is not disturbed during demolition. Following demolition, the tree protection fencing shall be installed as shown in Attachment 1.

Construction Access:
Construction access may be necessary within the tree protection zones of trees 282, 314, 511, and 562 for work such as siding installation, painting, etc. To minimize compaction from construction foot traffic, a 12-inch layer of wood chips over geotextile fabric should be placed in the work area shown in Attachment 1. The tree protection fencing may be shifted to the edge of the fabric and wood chips if approved by the project arborist. The fabric and woods chips should be immediately removed after construction.

Pruning:

- It may be necessary or desirable to prune trees at the site. All pruning should be completed by a qualified tree service with an ISA Certified Arborist on site. All pruning should be in accordance with ANSI A300 pruning standards and Z133.1 safety standards and approved in coordination with the project arborist.

Tree/Stump Removal:

- Any trees to be removed should be fallen away from the trees to be retained so they do not contact, or otherwise damage the trees to be retained.
- The stumps of trees to be removed that are within the tree protection fencing shown in Attachment 1 should either be flush cut and retained, stump

ground, or have their structural roots cut before pulling with an excavator to protect the root systems of the trees to be retained.

Sediment Fencing:
Sediment fencing shall be installed outside the protection zones of the trees to be retained to minimize root disturbances. If erosion control is required inside the protection zones, straw wattles shall be used on the soil surface.

Periodic Risk Assessments:
The trees to be retained that were part of a larger grove will be at an inherently increased risk of failure after adjacent tree removal. These trees should be monitored periodically and after storm events by the project arborist following site clearing to determine if any pose unreasonable risks.

The following additional tree protection recommendations meet and/or exceed Beaverton Development Code requirements:

Before Construction Begins

1. Notify all contractors of tree protection procedures. For successful tree protection on a construction site, all contractors must know and understand the goals of tree protection.
    a. Hold a tree protection meeting with all contractors to explain the goals of tree protection.
    c. Have all contractors sign memoranda of understanding regarding the goals of tree protection. The memoranda should include a penalty for violating the tree protection plan. The penalty should equal the resulting fines issued by the local jurisdiction or the appraised value of the tree(s) within the violated tree protection zone per the current Trunk Formula Method as outline in the current edition of the ***Guide for Plant Appraisal*** by the Council of Tree & Landscape Appraisers, whichever is greater. The penalty should be paid to the owner of the property.
2. Fencing
    a. Trees to remain on site will be protected by installation of tree protection fencing at the edge of the protected root zone, which is defined by the City of Beaverton as the tree dripline plus 5-feet. Alternatively, tree protection fencing may be set as shown in Attachment 1.
    b. Fencing and protected root zones are required to be shown on the site plan for a Tree Plan Two application.
    c. The fencing should be put in place before the ground is cleared in order to protect the trees and the soil around the trees from disturbances.
    d. Fencing should be established by the project arborist based on the needs of the trees to be protected and to facilitate construction.
    e. Fencing should consist of 6-foot high steel fencing on concrete blocks or 6-foot metal fencing secured to the ground with 8-foot metal posts to prevent it from being moved by contractors, sagging, or falling down.
    f. Fencing should remain in the position that is established by the project arborist and not be moved without approval from the project arborist until final project approval.

3. Signage
    a. All tree protection fencing should have signage as follows so that all contractors understand the purpose of the fencing:

> **TREE PROTECTION ZONE**
>
> **<u>DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION FENCING.</u>**
>
> Please contact the project arborist if alterations to the approved location of the tree protection fencing are necessary.
>
> Todd Prager, Project Arborist - 971-295-4835

    b. Signage should be placed every 75-feet or less.
    c. Colored tree flagging indicating that this area is a tree protection zone is to be placed every five (5) linear feet on the fence to alert construction crews of the sensitive nature of the area.

<u>During Construction</u>

1. Protection Guidelines Within the Tree Protection Zones:
    a. No new buildings; grade change or cut and fill, during or after construction; new impervious surfaces; or utility or drainage field placement should be allowed within the tree protection zones.
    b. No traffic should be allowed within the tree protection zones. This includes but is not limited to vehicle, heavy equipment, or even repeated foot traffic.
    c. No storage of materials including but not limiting to soil, construction material, or waste from the site should be permitted within the tree protection zones. Waste includes but is not limited to concrete wash out, gasoline, diesel, paint, cleaner, thinners, etc.
    d. Construction trailers should not to be parked/placed within the tree protection zones.
    e. No vehicles should be allowed to park within the tree protection zones.
    f. No other activities should be allowed that will cause soil compaction within the tree protection zones.
2. The trees should be protected from any cutting, skinning or breaking of branches, trunks, or woody roots.
3. The project arborist should be notified prior to the cutting of woody roots from trees that are to be retained to evaluate and oversee the proper cutting of roots with sharp cutting tools. Cut roots should be immediately covered with soil or mulch to prevent them from drying out.
4. Trees that have roots cut should be provided supplemental water during the summer months.
5. Any necessary passage of utilities through the tree protection zones should be by means of tunneling under woody roots by hand digging or boring with oversight by the project arborist.

6. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

After Construction

1. Carefully landscape the areas within the tree protection zones. Do not allow trenching for irrigation or other utilities within the tree protection zones.
2. Carefully plant new plants within the tree protection zones. Avoid cutting the woody roots of trees that are retained.
3. Do not install permanent irrigation within the tree protection zones unless it is drip irrigation to support a specific planting or the irrigation is approved by the project arborist.
4. Provide adequate drainage within the tree protection zones and do not alter soil hydrology significantly from existing conditions for the trees to be retained.
5. Provide for the ongoing inspection and treatment of insect and disease populations that can damage the retained trees and plants.
6. The retained trees may need to be fertilized if recommended by the project arborist.
7. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

If adhering to any of the tree protection recommendations in this section of the report is not feasible, additional trees may need to be removed.

Tree Plan Two Standards

The Tree Plan Two requirements in section 40.90.15.2 of the Beaverton Development Code apply because less than 85 percent of the total DBH of non-exempt surveyed trees within the significant grove is proposed for removal.

The Tree Plan Two application requires findings for the Tree Plan Two approval criteria listed in section 40.90.15.2.C.1-13 of the Beaverton Development Code. This section of the report includes the findings that can be referenced for the written narrative portion of the application. The approval criteria are numbered below, with findings in *italics*:

1. The proposal satisfies the threshold requirements for a Tree Plan Two application.
The threshold for the Tree Plan Two application requirements have been satisfied by the proposed removal of less than 85 percent of the total DBH of non-exempt surveyed trees within the significant grove at the site.

2. All City application fees related to the application under consideration by the decision making authority have been submitted.
All City application fees related to the application under consideration by the decision making authority will be submitted with the application.

3. If applicable, removal of any tree is necessary to observe good forestry practices according to recognized American National Standards Institute (ANSI) A300-1995 standards and International Society of Arborists (ISA) standards on the subject.

The criterion is not applicable because the proposed removal is not necessary to observe good forestry practices. The purpose of the removal is to accommodate physical development where no reasonable alternative exists as later described.

4. If applicable, removal of any tree is necessary to accommodate physical development where no reasonable alternative exists.
A typical minimum tree protection zone allows encroachments no closer than a radius from a tree of .5 feet per inch of DBH if no more than 25 percent of the root protection zone area (estimated at one foot radius per inch of DBH) is impacted. Figure 1 illustrates this concept.

Attachment 1 shows the preliminary plan for site improvements in relation to the existing trees. Due to the intensity of site improvements, it will be necessary to remove trees toward the northern and central portions of the site because they are either within the footprint of improvements or would have impacts well within their recommended root protection zones.

The remaining trees along the southern end of the site and on the north and east property lines can be retained and protected according to the Tree Protection Recommendations section of this report. The focus of the protection efforts is on the trees within the existing wetland to be retained as well as well as trees on the north and east property lines.

The site trees selected for retention have been carefully assessed and are either not high risks to existing or proposed targets, and/or have characteristics such as adequate live crown ratios and trunk taper indicative of trees that can adapt to increased exposure from tree removal with the development. A level 1 tree risk assessment of neighboring trees was conducted from offsite and they also appear to either not be probable failures risks, and/or there are mitigating circumstances that allow for their preservation. However, the retained trees should be reassessed and monitored after site clearing to ensure they are properly adapting to the changes from increased exposure and/or do not pose high risks. Note that offsite trees 313 and 314 to the north of the site will not be removed at the request of the property owner. These trees will be monitored throughout construction so that potential risks can be appropriately identified and addressed.

Alternative tree preservation designs for the development were considered and have been incorporated into the proposed design. The initial proposal in 2019 through 2021 was to construct three buildings which would have impacted additional trees on the north and east property lines. The revised plan includes two buildings with a smaller development footprint and allows for the preservation of all trees on the north and east property lines. Both alternative plans focus preservation efforts within the existing wetland at the southern end of the site.

In summary, the proposed pattern of preservation retains all trees on the north and east property lines and primarily retains the trees within the existing wetland at the southern end of the site. The result is that tree removal is focused towards to the

center and northern end of the site to accommodate physical development and no reasonable alternative exists to preserve additional trees.

5. If applicable, removal of any tree is necessary because it has become a nuisance by virtue of damage to property or improvements, either public or private, on the subject site or adjacent sites.
The criterion is not applicable because the proposed removal is not because any of the trees are damaging property or improvements. The purpose of the removal is to accommodate physical development where no reasonable alternative exists as previously described.

6. If applicable, removal is necessary to accomplish public purposes, such as installation of public utilities, street widening, and similar needs, where no reasonable alternative exists without significantly increasing public costs or reducing safety.
The criterion is not applicable because the proposed removal is not for installation of public utilities, streets, etc. The purpose of the removal is to accommodate physical development where no reasonable alternative exists as previously described.

7. If applicable, removal of any tree is necessary to enhance the health of the tree, grove, SNRA, or adjacent trees, or to eliminate conflicts with structures or vehicles. [ORD4584; June 2012]
The criterion is not applicable because the proposed removal is not to enhance the health of the tree, grove, SNRA, or adjacent trees, or to eliminate conflicts with structures or vehicles. The purpose of the removal is to accommodate physical development where no reasonable alternative exists as previously described.

8. If applicable, removal of a tree(s) within a SNRA or Significant Grove will not result in a reversal of the original determination that the SNRA or Significant Grove is significant based on criteria used in making the original significance determination.
The proposed removal of significant tree grove trees will not result in a reversal of the original determination that grove NX-4 is significant based on criteria used in making the original significance determination.

The tree inventory data sheet for significant grove NX-4 notes that the protection goal should be to maintain a vegetative buffer adjacent to the stream that flows at the southern end of the grove. It also notes that the trees in the grove are stand grown, and exposure through development could result in decline and/or windthrow.

The proposed removal does not disturb the vegetative buffer around the stream which is further to the south of the site. Also, the site trees selected for retention have been carefully assessed and are either not high risks to existing or proposed targets, and/or have characteristics such as adequate live crown ratios and trunk taper indicative of trees that can adapt to increased exposure from tree removal with the development. Therefore, the risk of tree decline and/or windthrow has been

minimized by selecting the lowest risk and most adaptable site trees for retention consistent with the protection recommendations for significant grove NX-4. Note that offsite trees 313 and 314 to the north of the site will not be removed at the request of the property owner. These trees will be monitored throughout construction so that potential risks can be appropriately identified and addressed.

9. If applicable, removal of a tree(s) within a SNRA or Significant Grove will not result in the remaining trees posing a safety hazard due to the effects of windthrow.
The proposed pattern of preservation primarily retains the existing wetland trees that are adapted or protected from storm damaging winds that come primarily from the southwest. Also, all trees on the north and east property lines will be retained and protected. The site trees selected for retention have been carefully assessed and are either not high risks to existing or proposed targets, and/or have characteristics such as adequate live crown ratios and trunk taper indicative of trees that can adapt to increased exposure from tree removal with the development. A level 1 tree risk assessment of neighboring trees was conducted from offsite and they also appear to either not be probable failures risks, and/or there are mitigating circumstances that allow for their preservation. Note that offsite trees 313 and 314 to the north of the site will not be removed at the request of the property owner. These trees will be monitored throughout construction so that potential risks can be appropriately identified and addressed.

It will be important to adequately protect the property line trees and offsite trees that are close to the property lines during construction. The retained trees should be reassessed and monitored after site clearing to ensure they are properly adapting to the changes from increased exposure and/or do not pose high risks.

10. The proposal is consistent with all applicable provisions of Section 60.60. (Trees and Vegetation) and Section 60.67. (Significant Natural Resources).
The proposal is consistent with all applicable provisions of Section 60.60 as demonstrated in the other sections of this report. This report describes the existing trees located on the site, as well as recommendations for tree removal, preservation, mitigation, and protection during construction in accordance with applicable Beaverton Development Code provisions.

The standards of Section 60.67 will be met as described by other members of the project team.

11. Grading and contouring of the site is designed to accommodate the proposed use and to mitigate adverse effects on neighboring properties, public right-of-way, surface drainage, water storage facilities, and the public storm drainage system. [ORD 4584; June 2012]
The site has been graded to minimize impact to trees that are being protected and to capture as much stormwater as possible that falls on the site (including all impervious area).

12. The proposal contains all applicable application submittal requirements as specified in Section 50.25.1. of the Development Code.
The application package for this project contains all applicable submittal requirements specified in Section 50.25.1 of the Beaverton Development Code. Included in the application package are:

- *A completed original application form with all of the necessary signatures;*
- *This written narrative addressing all applicable Tree Plan Two approval criteria in detail;*
- *Additional information identified by the Director to aid in the decision making including an existing conditions plan and dimensioned site plan with all of the required elements listed in the application form[5];*
- *Neighborhood meeting information as required by Section 50.30.4;*
- *A copy of the pre-application summary;*
- *Documentation from Clean Water Services stating that water quality will not be adversely affected by the proposal; and*
- *The required application fee.*

13. Applications and documents related to the request, which will require further City approval, shall be submitted to the City in the proper sequence.
Applications and documents for the Scholls Ferry Apartments project are being submitted as required in the proper sequencing.

[5] Note that the Tree Plan Two application requirements include detailed site plan and graphic requirements which can be found at online at: <www.beavertonoregon.gov/DocumentCenter/Home/View/1156> and will be addressed by others on the project team.

Conclusion

This updated report describes the existing trees located on the site, as well as recommendations for tree removal, preservation, mitigation, and protection during construction. Updated findings for the Tree Plan Two approval criteria in section 40.90.15.2.C.1-13 of the Beaverton Development Code are also provided. In conjunction with the site plans and graphics provided by others for the Tree Plan Two application, this report will satisfy the tree related requirements in City of Beaverton Development Code Chapters 40.90 and 60.60.

Please contact me if you have questions, concerns, or need additional information.

Sincerely,

Todd Prager

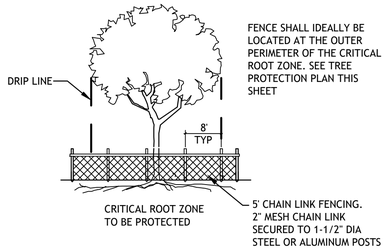
Todd Prager
ASCA Registered Consulting Arborist #597
ISA Board Certified Master Arborist, WE-6723B
ISA Qualified Tree Risk Assessor
AICP, American Planning Association
AICP, American Planning Association

Attachment:
- Attachment 1: Preliminary Site Plan with Tree Protection and Removal Areas
- Attachment 2: Tree Inventory
- Attachment 3: Assumptions and Limiting Conditions

A. TREE PROTECTION SPECIFICATIONS

1. **TREE PROTECTION ZONE.** THE PROJECT ARBORIST SHALL DESIGNATE THE TREE PROTECTION ZONE (TPZ). WHERE FEASIBLE, THE TPZ SHALL BE ESTABLISHED AT THE DRIPLINE OF PROTECTED TREES AS A MINIMUM. IF INFRASTRUCTURE MUST BE INSTALLED CLOSER TO THE TREES, THE TPZ MAY BE ESTABLISHED WITHIN THE DRIPLINE AREA IF THE PROJECT ARBORIST DETERMINES THAT THE TREES WILL NOT BE UNDULY DAMAGED. THE LOCATION OF THE TPZ SHALL BE SHOWN ON CONSTRUCTION DRAWINGS.
2. **PROTECTION FENCING. PROTECTION FENCING.** ALL TREES TO BE RETAINED SHALL BE PROTECTED BY FENCING AS APPROVED BY THE PROJECT ARBORIST, SEE TREE PROTECTION DETAIL THIS SHEET. PROTECTION FENCING SHALL BE SECURED TO STEEL POSTS PLACED NO FURTHER THAN 8-FEET APART AND SHALL BE INSTALLED AT THE EDGE OF THE TPZ..
3. **PRECONSTRUCTION CONFERENCE.** THE PROJECT ARBORIST SHALL BE ON SITE TO DISCUSS METHODS OF TREE REMOVAL AND TREE PROTECTION PRIOR TO ANY CONSTRUCTION.
4. **PRUNING.** THE PROJECT ARBORIST CAN HELP IDENTIFY IF AND WHERE PRUNING IS NECESSARY ONCE TREES RECOMMENDED FOR REMOVAL HAVE BEEN REMOVED AND THE SITE IS STAKED AND PREPARED FOR CONSTRUCTION. PRUNING SHALL BE PERFORMED BY A QUALIFIED TREE SERVICE.
5. **TREE PROTECTION ZONE MAINTENANCE.** THE PROTECTION FENCING SHALL NOT BE MOVED, REMOVED, OR ENTERED BY EQUIPMENT EXCEPT UNDER DIRECTION OF THE PROJECT ARBORIST.
6. **STORAGE OF MATERIAL OR EQUIPMENT.** THE CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT WITHIN THE TPZ.
7. **EXCAVATION.** EXCAVATION WITHIN THE TPZ SHALL BE AVOIDED IF ALTERNATIVES ARE AVAILABLE. IF EXCAVATION WITHIN THE TPZ IN UNAVOIDABLE, THE PROJECT ARBORIST SHALL EVALUATE THE PROPOSED EXCAVATION TO DETERMINE METHODS TO MINIMIZE IMPACTS TO TREES. ALL CONSTRUCTION WITHIN THE TPZ SHALL BE UNDER THE ON-SITE TECHNICAL SUPERVISION OF THE PROJECT ARBORIST.
8. **TREE PROTECTION INSPECTION.** THE PROJECT ARBORIST SHALL INSPECT AND VERIFY THE LOCATION OF PROTECTION MEASURES PRIOR TO CONSTRUCTION, MONITOR TREE PROTECTION MEASURES REGULARLY, AND PROVIDE BIWEEKLY WRITTEN REPORTS TO THE CITY DURING PERIODS OF ACTIVE CONSTRUCTION.
9. **POST CLEARING EVALUATION.** THE PROJECT ARBORIST SHALL VISIT THE SITE AT THE TIME OF CLEARING TO RE-ASSESS TREES PLANNED FOR PRESERVATION IN TERMS OF GENERAL CONDITION AND POTENTIAL RISK. IF TREES ARE FOUND TO BE HAZARDOUS, THE PROJECT ARBORIST SHALL UPDATE THE URBAN FORESTRY PLAN FOR THE CITY'S REVIEW AND APPROVAL.
10. **FINAL REPORT.** AFTER THE PROJECT HAS BEEN COMPLETED, THE PROJECT ARBORIST SHALL PROVIDE A FINAL REPORT THAT DESCRIBES THE MEASURES NEEDED TO MAINTAIN AND PROTECT THE REMAINING TREES.

FENCES SHALL BE IN PLACE PRIOR TO BEGINNING CONSTRUCTION!



TREE PROTECTION DETAIL
(NOT TO SCALE)

KEYNOTE:

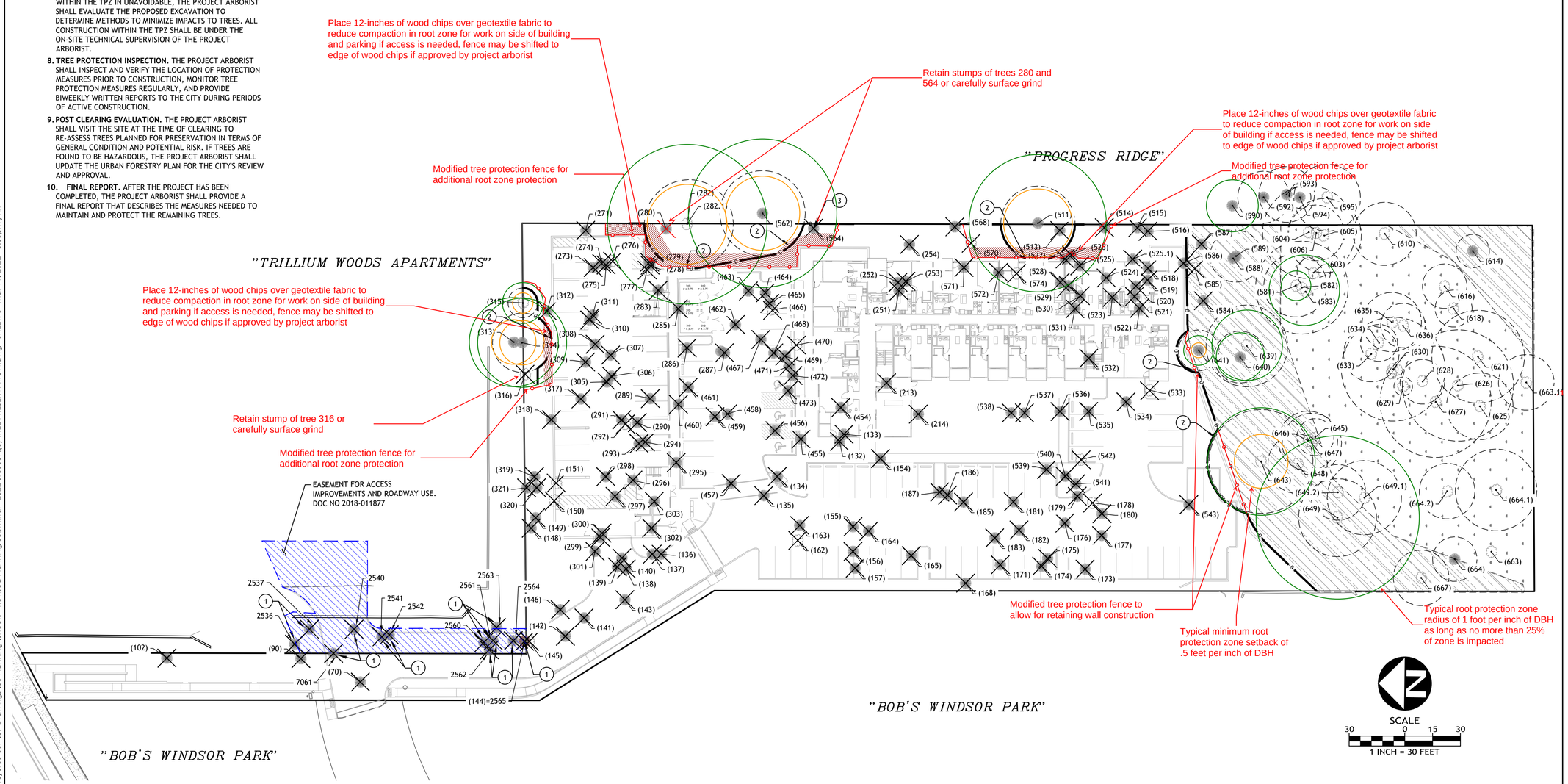
1. REMOVAL OF TREES LOCATED ON PROPERTY BOUNDARIES REQUIRES PRIOR WRITTEN CONSENT OF ADJACENT PROPERTY OWNER.
2. PROJECT ARBORIST TO OVERSEE EXCAVATION OF BUILDING AND WALL FOUNDATION IN TREE 643, 641, 511, 562, 282.1 & 314 ROOT ZONES.
3. RETAIN STUMP OF TREE 564 OR CAREFULLY GRIND SURFACE.

NOTES:

1. COORDINATE WITH PROJECT ARBORIST PRIOR TO REMOVING OR MOVING TREE PROTECTION MEASURES TO SUPERVISE CONSTRUCTION IN PROTECTION ZONE.
2. REFER TO "TREE PLAN FOR SCHOLLS FERRY APARTMENTS" FOR CANOPY RADIUS AND DIMENSIONS.
3. SEE SHEET 2 FOR EXISTING CONDITIONS AND TAX MAP INFORMATION.
4. SEE SHEET 4 FOR THE PROPOSED GRADING PLAN AND RETAINING WALL LOCATIONS.
5. SEE SHEETS 5 FOR THE PRELIMINARY UTILITY PLAN.
6. SEE SHEETS L1.1 - L4.2 FOR LANDSCAPE PLAN.

LEGEND

- DECIDUOUS
- CONIFEROUS
- EXISTING TREE TO BE REMOVED
- EXISTING TREE WITH DRIP LINE
- EXISTING TREE TO BE RETAINED WITH TREE PROTECTION FENCING PER DTL 1, THIS SHEET
- WETLAND
- EXISTING WETLANDS BUFFER
- (315) TREE NUMBER (REFER TO "ATTACHMENT A: EXISTING TREE INVENTORY DATA" FOR TREE DETAILS)



N:\proj\136-007\09 Drawings\03 Planning\Sheets - Revised Planning Submittal - 2022\136007.(6) TREE PRESERVATION.dwg - SHEET: 6 Mar 11, 2022 - 5:03pm jmh

PACIFIC COMMUNITY DESIGN

12564 SW Main Street
Tigard, OR 97223
[T] 503-941-9484

DATE: 03/11/2022

REVISIONS

NO.	DATE	DESCRIPTION

Attachment 1

SCHOLLS FERRY MULTIFAMILY

PRELIMINARY TREE PRESERVATION PLAN

PROJECT NO.: 136007
TYPE: PRELIMINARY
REVIEWED BY: JMH

6

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
70	7060	Douglas-fir	*Pseudotsuga menziesii*	conif.	35	15	good	good		sig. grove tree	remove
90		Douglas-fir	*Pseudotsuga menziesii*	conif.	17	18	good	fair	moderately one sided	sig. grove tree	remove
102		Douglas-fir	*Pseudotsuga menziesii*	conif.	14	9	good	fair	marginal trunk taper	sig. grove tree	remove
132		Douglas-fir	*Pseudotsuga menziesii*	conif.	10	15	fair	fair	overtopped by adjacent trees, one sided	sig. grove tree	remove
133		Douglas-fir	*Pseudotsuga menziesii*	conif.	27	20	good	fair	one sided	sig. grove tree	remove
134		Douglas-fir	*Pseudotsuga menziesii*	conif.	5	9	poor	poor	topped for overhead power, suppressed	exempt (<10" DBH)	remove
135		Douglas-fir	*Pseudotsuga menziesii*	conif.	6	0	very poor	very poor	dead, topped for overhead power	exempt (<10" DBH)	remove
136		Douglas-fir	*Pseudotsuga menziesii*	conif.	19	15	poor	poor	thin crown, branch dieback	exempt (hazardous, dead, or diseased)	remove
137		Douglas-fir	*Pseudotsuga menziesii*	conif.	12	12	poor	poor	thin crown, branch dieback	exempt (hazardous, dead, or diseased)	remove
138		western redcedar	*Thuja plicata*	conif.	28	0	very poor	very poor	dead	exempt (hazardous, dead, or diseased)	remove
139		Douglas-fir	*Pseudotsuga menziesii*	conif.	15	12	poor	poor	poor trunk taper, crown dieback	exempt (hazardous, dead, or diseased)	remove
140		western redcedar	*Thuja plicata*	conif.	12	10	fair	fair	codominant at ground level, thin crown	sig. grove tree	remove
141		Douglas-fir	*Pseudotsuga menziesii*	conif.	16	13	fair	fair	thin crown, marginal trunk taper	sig. grove tree	remove
142		Douglas-fir	*Pseudotsuga menziesii*	conif.	12	13	good	fair	one sided, previously lost top with new top at 20'	sig. grove tree	remove
143		Douglas-fir	*Pseudotsuga menziesii*	conif.	10	10	fair	poor	topped for overhead power	sig. grove tree	remove

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
144	2565	Douglas-fir	*Pseudotsuga menziesii*	conif.	14	12	good	fair	one sided	sig. grove tree	remove
145		sweet cherry	*Prunus avium*	decid.	7	14	good	fair	one sided, overtopped by adjacent trees	exempt (<10" DBH)	remove
146		Douglas-fir	*Pseudotsuga menziesii*	conif.	14	8	good	fair	marginal trunk taper	sig. grove tree	remove
148		black cottonwood	*Populus trichocarpa*	decid.	37	27	good	fair	multiple leaders	sig. grove tree	remove
149		Douglas-fir	*Pseudotsuga menziesii*	conif.	16	10	poor	poor	overtopped by adjacent trees, significant branch dieback	exempt (hazardous, dead, or diseased)	remove
150		bigleaf maple	*Acer macrophyllum*	decid.	8	10	fair	poor	overtopped by adjacent trees, one sided, significant lean	sig. grove tree	remove
151		bigleaf maple	*Acer macrophyllum*	decid.	15	12	fair	fair	sweep in lower trunk moderately suppressed	sig. grove tree	remove
154		Douglas-fir	*Pseudotsuga menziesii*	conif.	11	11	good	fair	moderately one sided	sig. grove tree	remove
155		Douglas-fir	*Pseudotsuga menziesii*	conif.	43	20	good	fair	moderately one sided	sig. grove tree	remove
156		Douglas-fir	*Pseudotsuga menziesii*	conif.	28	15	good	fair	one sided	sig. grove tree	remove
157		Douglas-fir	*Pseudotsuga menziesii*	conif.	12	11	good	fair	one sided, overtopped by adjacent trees, marginal trunk taper	sig. grove tree	remove
162		Scouler's willow	*Salix scouleriana*	decid.	16	10	very poor	very poor	codominant at 8', extensive dieback and decay	exempt (hazardous, dead, or diseased)	remove
163		Douglas-fir	*Pseudotsuga menziesii*	conif.	16	10	poor	poor	thin crown, branch dieback, poor trunk taper	exempt (hazardous, dead, or diseased)	remove
164		Douglas-fir	*Pseudotsuga menziesii*	conif.	16	16	fair	fair	one sided, overtopped by adjacent trees	sig. grove tree	remove
165		Douglas-fir	*Pseudotsuga menziesii*	conif.	40	20	good	good		sig. grove tree	remove
168		Douglas-fir	*Pseudotsuga menziesii*	conif.	24	16	good	fair	marginal trunk taper	sig. grove tree	remove

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
171		Douglas-fir	*Pseudotsuga menziesii*	conif.	10	5	fair	fair	one sided, overtopped by adjacent trees	sig. grove tree	remove
173		western redcedar	*Thuja plicata*	conif.	10	10	good	good		sig. grove tree	remove
174		Douglas-fir	*Pseudotsuga menziesii*	conif.	10	8	good	good		sig. grove tree	remove
175		Scouler's willow	*Salix scouleriana*	decid.	8	10	very poor	very poor	extensive dieback and decay	exempt (<10" DBH)	remove
176		Douglas-fir	*Pseudotsuga menziesii*	conif.	37	16	good	fair	moderately one sided	sig. grove tree	remove
177		Douglas-fir	*Pseudotsuga menziesii*	conif.	37	16	good	good		sig. grove tree	remove
178		sweet cherry	*Prunus avium*	decid.	12	9	fair	fair	one sided, overtopped by adjacent trees, extensive ivy	sig. grove tree	remove
179		ponderosa pine	*Pinus ponderosa*	conif.	22	18	fair	fair	one sided, extensive ivy	sig. grove tree	remove
180		western redcedar	*Thuja plicata*	conif.	7	8	very poor	very poor	top dieback	exempt (<10" DBH)	remove
181		Douglas-fir	*Pseudotsuga menziesii*	conif.	23	18	good	fair	one sided	sig. grove tree	remove
182		Douglas-fir	*Pseudotsuga menziesii*	conif.	8	5	poor	poor	overtopped by adjacent trees, smothered by ivy	exempt (<10" DBH)	remove
183		Douglas-fir	*Pseudotsuga menziesii*	conif.	34	25	fair	good	moderately thin crown	sig. grove tree	remove
185		Douglas-fir	*Pseudotsuga menziesii*	conif.	11	11	good	fair	one sided	sig. grove tree	remove
186		Douglas-fir	*Pseudotsuga menziesii*	conif.	17	17	good	fair	moderately one sided	sig. grove tree	remove
187		ponderosa pine	*Pinus ponderosa*	conif.	8	10	poor	poor	suppressed	exempt (<10" DBH)	remove
213		Douglas-fir	*Pseudotsuga menziesii*	conif.	19	12	good	good		sig. grove tree	remove
214		ponderosa pine	*Pinus ponderosa*	conif.	26	19	fair	fair	moderately thin crown, moderately one sided	sig. grove tree	remove
251		Douglas-fir	*Pseudotsuga menziesii*	conif.	29	21	good	fair	overtopped by adjacent trees, one sided	sig. grove tree	remove
252		Douglas-fir	*Pseudotsuga menziesii*	conif.	38	29	good	fair	one sided	sig. grove tree	remove

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
253		Douglas-fir	*Pseudotsuga menziesii*	conif.	21	16	good	fair	overtopped by adjacent trees, one sided	sig. grove tree	remove
254		Douglas-fir	*Pseudotsuga menziesii*	conif.	35	11	good	fair	moderately narrow crown extension	sig. grove tree	remove
271		Douglas-fir	*Pseudotsuga menziesii*	conif.	27	16	good	fair	moderately one sided, marginal trunk taper	sig. grove tree	remove
273		Douglas-fir	*Pseudotsuga menziesii*	conif.	23	12	fair	fair	one sided, marginal trunk taper	sig. grove tree	remove
274		Douglas-fir	*Pseudotsuga menziesii*	conif.	19	10	fair	fair	one sided, marginal trunk taper, moderately suppressed	sig. grove tree	remove
275		Douglas-fir	*Pseudotsuga menziesii*	conif.	9	0	very poor	very poor	dead	exempt (<10" DBH)	remove
276		bigleaf maple	*Acer macrophyllum*	decid.	9	4	fair	fair	overtopped by adjacent trees	sig. grove tree	remove
277		madrone	*Arbutus menziesii*	decid.	8	10	fair	fair	overtopped by adjacent trees, one sided, branch dieback	sig. grove tree	remove
278		Douglas-fir	*Pseudotsuga menziesii*	conif.	28	15	fair	fair	one sided	sig. grove tree	remove
279		Douglas-fir	*Pseudotsuga menziesii*	conif.	15	0	very poor	very poor	dead	exempt (hazardous, dead, or diseased)	remove
280		Douglas-fir	*Pseudotsuga menziesii*	conif.	42	21	good	fair	moderately one sided	sig. grove tree	remove
282		madrone	*Arbutus menziesii*	decid.	6	11	fair	fair	one sided, overtopped by adjacent trees, branch dieback	sig. grove tree	retain
282.1		Douglas-fir	*Pseudotsuga menziesii*	conif.	43	24	good	fair	moderately one sided, appears to be on property line	sig. grove tree	retain
283		Douglas-fir	*Pseudotsuga menziesii*	conif.	25	15	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
285		Douglas-fir	*Pseudotsuga menziesii*	conif.	40	15	good	fair	moderately one sided	sig. grove tree	remove
286		Douglas-fir	*Pseudotsuga menziesii*	conif.	26	20	good	fair	moderately one sided, marginal trunk taper	sig. grove tree	remove
287		Douglas-fir	*Pseudotsuga menziesii*	conif.	29	20	good	fair	moderately one sided	sig. grove tree	remove
288		n/a	n/a	n/a	n/a	n/a	n/a	n/a	same as tree 287	n/a	n/a
289		Douglas-fir	*Pseudotsuga menziesii*	conif.	8	7	fair	fair	moderately suppressed, marginal trunk taper	exempt (<10" DBH)	remove

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
290		Douglas-fir	*Pseudotsuga menziesii*	conif.	23	13	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
291		Douglas-fir	*Pseudotsuga menziesii*	conif.	11	5	poor	poor	suppressed, poor trunk taper	exempt (hazardous, dead, or diseased)	remove
292		bigleaf maple	*Acer macrophyllum*	decid.	12	12	poor	poor	overtopped by adjacent trees, suppressed, lost top	exempt (hazardous, dead, or diseased)	remove
293		Douglas-fir	*Pseudotsuga menziesii*	conif.	8	5	poor	poor	suppressed	exempt (<10" DBH)	remove
294		Douglas-fir	*Pseudotsuga menziesii*	conif.	20	16	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
295		Douglas-fir	*Pseudotsuga menziesii*	conif.	19	16	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
296		Douglas-fir	*Pseudotsuga menziesii*	conif.	11	8	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
297		western redcedar	*Thuja plicata*	conif.	41	16	good	good		sig. grove tree	remove
298		western redcedar	*Thuja plicata*	conif.	15	9	good	fair	one sided	sig. grove tree	remove
299		Douglas-fir	*Pseudotsuga menziesii*	conif.	22	12	fair	fair	one sided, pressed against tree 300, thin crown	sig. grove tree	remove
300		Douglas-fir	*Pseudotsuga menziesii*	conif.	19	9	fair	fair	one sided, pressed against tree 299, thin crown	sig. grove tree	remove
301		western redcedar	*Thuja plicata*	conif.	7	4	good	fair	overtopped by adjacent trees	exempt (<10" DBH)	remove
302		Douglas-fir	*Pseudotsuga menziesii*	conif.	24	15	good	good		sig. grove tree	remove
303		Douglas-fir	*Pseudotsuga menziesii*	conif.	13	12	fair	poor	25% live crown ratio (lcr)	sig. grove tree	remove
305		Douglas-fir	*Pseudotsuga menziesii*	conif.	35	19	good	fair	moderately one sided	sig. grove tree	remove
306		Douglas-fir	*Pseudotsuga menziesii*	conif.	20	18	fair	fair	moderately one sided	sig. grove tree	remove

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
307		Douglas-fir	*Pseudotsuga menziesii*	conif.	12	14	poor	poor	one sided, overtopped by adjacent trees, moderately suppressed	exempt (hazardous, dead, or diseased)	remove
308		Douglas-fir	*Pseudotsuga menziesii*	conif.	26	16	fair	fair	overtopped by adjacent trees, suppressed	sig. grove tree	remove
309		Douglas-fir	*Pseudotsuga menziesii*	conif.	23	13	fair	fair	moderately suppressed, marginal trunk taper, one sided	sig. grove tree	remove
310		Douglas-fir	*Pseudotsuga menziesii*	conif.	19	13	fair	poor	one sided, pressed against tree 311, suppressed	sig. grove tree	remove
311		Douglas-fir	*Pseudotsuga menziesii*	conif.	31	20	good	fair	one sided, pressed against tree 310	sig. grove tree	remove
312		Douglas-fir	*Pseudotsuga menziesii*	conif.	34	16	good	fair	moderately one sided	sig. grove tree	remove
313		Douglas-fir	*Pseudotsuga menziesii*	conif.	24	12	fair	fair	Over property line (north), one sided, marginal trunk taper, blowdown risk	exempt (offsite)	retain
314	2589	Douglas-fir	*Pseudotsuga menziesii*	conif.	24	16	fair	fair	straddles property line (north), one sided, marginal trunk taper, blowdown risk	sig. grove tree	retain
315	3802	madrone	*Arbutus menziesii*	decid.	11	8	fair	fair	one sided, branch dieback, on property line	sig. grove tree	retain
316		bigleaf maple	*Acer macrophyllum*	decid.	22	18	fair	fair	sweep in lower trunk, epicormic growth on lower trunk, history of branch failure	sig. grove tree	remove
317		Douglas-fir	*Pseudotsuga menziesii*	conif.	33	19	good	fair	moderately one sided	sig. grove tree	remove
318		Douglas-fir	*Pseudotsuga menziesii*	conif.	10	12	fair	fair	one sided, overtopped by adjacent trees, marginal trunk taper	sig. grove tree	remove
319		Douglas-fir	*Pseudotsuga menziesii*	conif.	9	10	fair	fair	overtopped by adjacent trees, one sided, moderately suppressed	exempt (<10" DBH)	remove
320		Douglas-fir	*Pseudotsuga menziesii*	conif.	18	15	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
321		Douglas-fir	*Pseudotsuga menziesii*	conif.	14	11	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
454		Douglas-fir	*Pseudotsuga menziesii*	conif.	33	25	good	fair	moderately one sided	sig. grove tree	remove

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
455		Douglas-fir	*Pseudotsuga menziesii*	conif.	19	13	good	fair	moderately one sided	sig. grove tree	remove
456		Douglas-fir	*Pseudotsuga menziesii*	conif.	30	15	good	fair	40% lcr	sig. grove tree	remove
457		Douglas-fir	*Pseudotsuga menziesii*	conif.	31	22	good	fair	previously lost top with new top at 50'	sig. grove tree	remove
458		Douglas-fir	*Pseudotsuga menziesii*	conif.	29	17	good	fair	one sided	sig. grove tree	remove
459		Douglas-fir	*Pseudotsuga menziesii*	conif.	28	17	good	fair	one sided	sig. grove tree	remove
460		Douglas-fir	*Pseudotsuga menziesii*	conif.	20	14	fair	poor	previously lost top with new top at 25', poor trunk taper	sig. grove tree	remove
461		Douglas-fir	*Pseudotsuga menziesii*	conif.	8	10	poor	poor	suppressed	exempt (<10" DBH)	remove
462		Douglas-fir	*Pseudotsuga menziesii*	conif.	25	17	good	fair	35% lcr	sig. grove tree	remove
463		Douglas-fir	*Pseudotsuga menziesii*	conif.	21	15	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
464		Douglas-fir	*Pseudotsuga menziesii*	conif.	26	14	good	fair	one sided	sig. grove tree	remove
465		Douglas-fir	*Pseudotsuga menziesii*	conif.	11	15	poor	poor	overtopped by adjacent trees, smothered by ivy, one sided, ok to retain	exempt (hazardous, dead, or diseased)	remove
466		madrone	*Arbutus menziesii*	decid.	11	16	good	fair	one sided, extensive ivy, ok to retain	sig. grove tree	remove
467		Douglas-fir	*Pseudotsuga menziesii*	conif.	24	15	good	fair	one sided, ok to retain	sig. grove tree	remove
468		Douglas-fir	*Pseudotsuga menziesii*	conif.	26	17	good	fair	one sided, marginal trunk taper, ok to retain	sig. grove tree	remove
469		Douglas-fir	*Pseudotsuga menziesii*	conif.	22	15	fair	fair	one sided, marginal trunk taper, ok to retain	sig. grove tree	remove
470		madrone	*Arbutus menziesii*	decid.	12	20	good	fair	significant lean south, ok to retain	sig. grove tree	remove
471		Douglas-fir	*Pseudotsuga menziesii*	conif.	10	10	poor	poor	smothere by ivy, suppressed, ok to retain	exempt (hazardous, dead, or diseased)	remove

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
472		Douglas-fir	*Pseudotsuga menziesii*	conif.	10	10	poor	poor	smothere by ivy, suppressed, ok to retain	exempt (hazardous, dead, or diseased)	remove
473		Douglas-fir	*Pseudotsuga menziesii*	conif.	23	20	good	fair	one sided, marginal trunk taper, ok to retain	sig. grove tree	remove
511		Douglas-fir	*Pseudotsuga menziesii*	conif.	37	20	good	fair	one sided	sig. grove tree	remove
513		Douglas-fir	*Pseudotsuga menziesii*	conif.	28	15	fair	poor	33% lcr, marginal trunk taper	sig. grove tree	remove
514		Douglas-fir	*Pseudotsuga menziesii*	conif.	27	14	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
515		Douglas-fir	*Pseudotsuga menziesii*	conif.	27	16	fair	fair	one sided, marginal trunk taper, branch dieback	sig. grove tree	remove
516		Douglas-fir	*Pseudotsuga menziesii*	conif.	13	13	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
518		Douglas-fir	*Pseudotsuga menziesii*	conif.	15	16	fair	fair	one sided, marginal trunk taper	sig. grove tree	remove
519		Douglas-fir	*Pseudotsuga menziesii*	conif.	12	11	good	fair	one sided, marginal trunk taper, overtopped by adjacent trees	sig. grove tree	remove
520		Douglas-fir	*Pseudotsuga menziesii*	conif.	28	15	good	fair	one sided	sig. grove tree	remove
521		Douglas-fir	*Pseudotsuga menziesii*	conif.	29	22	good	fair	one sided	sig. grove tree	remove
522		Douglas-fir	*Pseudotsuga menziesii*	conif.	8	12	fair	poor	overtopped by adjacent trees, lost top	exempt (<10" DBH)	remove
523		Douglas-fir	*Pseudotsuga menziesii*	conif.	14	15	fair	poor	one sided, poor trunk taper	sig. grove tree	remove
524		Douglas-fir	*Pseudotsuga menziesii*	conif.	13	13	good	fair	one sided, overtopped by adjacent trees	sig. grove tree	remove
525		Douglas-fir	*Pseudotsuga menziesii*	conif.	23	18	fair	fair	one sided, extensive ivy at lower trunk, 35% lcr	sig. grove tree	remove
525.1		Douglas-fir	*Pseudotsuga menziesii*	conif.	23	12	fair	poor	poor trunk taper, duplicate number on plan so added .1	sig. grove tree	remove
526		Douglas-fir	*Pseudotsuga menziesii*	conif.	15	12	fair	fair	overtopped by adjacent trees, moderately suppressed, extensive ivy	sig. grove tree	remove
527		Douglas-fir	*Pseudotsuga menziesii*	conif.	28	18	good	fair	one sided, extensive ivy at lower trunk	sig. grove tree	remove

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
528		western redcedar	*Thuja plicata*	conif.	19	14	fair	fair	one sided	sig. grove tree	remove
529		western redcedar	*Thuja plicata*	conif.	13	5	very poor	very poor	top failed at 10'	exempt (hazardous, dead, or diseased)	remove
530		western redcedar	*Thuja plicata*	conif.	21	0	very poor	very poor	dead	exempt (hazardous, dead, or diseased)	remove
531		western redcedar	*Thuja plicata*	conif.	44	0	very poor	very poor	dead	exempt (hazardous, dead, or diseased)	remove
532		ponderosa pine	*Pinus ponderosa*	conif.	11	16	fair	poor	thin crown, poor trunk taper	sig. grove tree	remove
533		Oregon ash	*Fraxinus latifolia*	decid.	15	24	good	fair	codominant at 6' with included bark	sig. grove tree	remove
534		Douglas-fir	*Pseudotsuga menziesii*	conif.	28	21	fair	fair	history of branch failure	sig. grove tree	remove
535		spruce	*Picea sp.*	conif.	25	25	fair	fair	multiple leaders, branch dieback	sig. grove tree	remove
536		spruce	*Picea sp.*	conif.	15	15	good	fair	one sided	sig. grove tree	remove
537		Douglas-fir	*Pseudotsuga menziesii*	conif.	14	11	poor	poor	overtopped by adjacent trees, suppressed	exempt (hazardous, dead, or diseased)	remove
538		Douglas-fir	*Pseudotsuga menziesii*	conif.	42	26	good	good		sig. grove tree	remove
539		spruce	*Picea sp.*	conif.	24	22	good	fair	multiple leaders at 4' with included bark	sig. grove tree	remove
540		western hemlock	*Tsuga heterophylla*	conif.	17	19	very poor	very poor	dead	exempt (hazardous, dead, or diseased)	remove
541		Douglas-fir	*Pseudotsuga menziesii*	conif.	8	5	fair	fair	one sided, overtopped by adjacent trees	exempt (<10" DBH)	remove

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
542		European mountain ash	*Sorbus aucuparia*	decid.	8	8	fair	fair	one sided, codominant at 2'	exempt (<10" DBH)	remove
543		Douglas-fir	*Pseudotsuga menziesii*	conif.	22	16	good	good		sig. grove tree	remove
562		Douglas-fir	*Pseudotsuga menziesii*	conif.	40	23	fair	fair	Over property line (east), moderately thin crown	exempt (offsite)	retain
564		Douglas-fir	*Pseudotsuga menziesii*	conif.	36	21	good	fair	one sided	sig. grove tree	remove
568		Douglas-fir	*Pseudotsuga menziesii*	conif.	35	20	good	fair	one sided, extensive ivy at lower trunk	sig. grove tree	remove
570		madrone	*Arbutus menziesii*	decid.	7	7	fair	fair	overtopped by adjacent trees, extensive ivy	sig. grove tree	remove
571		Douglas-fir	*Pseudotsuga menziesii*	conif.	7	6	fair	fair	extensive ivy	exempt (<10" DBH)	remove
572		Douglas-fir	*Pseudotsuga menziesii*	conif.	7	7	fair	fair	extensive ivy	exempt (<10" DBH)	remove
574		madrone	*Arbutus menziesii*	decid.	11	9	good	fair	one sided	sig. grove tree	remove
581		Oregon ash	*Fraxinus latifolia*	decid.	8	17	fair	poor	overtopped by adjacent trees, extensive ivy	exempt (<10" DBH)	retain
582		Oregon ash	*Fraxinus latifolia*	decid.	19	25	fair	fair	codominant at ground level, history of branch failure	sig. grove tree	retain
583		n/a	n/a	n/a	n/a	n/a	n/a	n/a	same as tree 583	n/a	n/a
584		Douglas-fir	*Pseudotsuga menziesii*	conif.	33	23	good	fair	moderately one sided	sig. grove tree	remove
585		madrone	*Arbutus menziesii*	decid.	9	11	good	good		sig. grove tree	remove
586		Douglas-fir	*Pseudotsuga menziesii*	conif.	15	13	good	fair	one sided, marginal trunk taper	sig. grove tree	remove
587		Douglas-fir	*Pseudotsuga menziesii*	conif.	23	20	good	fair	one sided, 50% live crown ratio, marginal trunk taper	sig. grove tree	remove
588		Douglas-fir	*Pseudotsuga menziesii*	conif.	19	0	very poor	very poor	dead	exempt (hazardous, dead, or diseased)	retain
589		Douglas-fir	*Pseudotsuga menziesii*	conif.	19	14	fair	fair	thin crown, pressed against tree 588	sig. grove tree	retain
590		Douglas-fir	*Pseudotsuga menziesii*	conif.	14	14	good	fair	Over property line (east), one sided, marginal trunk taper	exempt (offsite)	retain

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
592		Douglas-fir	*Pseudotsuga menziesii*	conif.	14	14	good	fair	Over property line (east), one sided, marginal trunk taper	exempt (offsite)	retain
593		Douglas-fir	*Pseudotsuga menziesii*	conif.	24	15	poor	poor	Over property line (east), poor trunk taper, thin crown	exempt (offsite)	retain
594		Douglas-fir	*Pseudotsuga menziesii*	conif.	6	6	fair	poor	Over property line (east), poor trunk taper	exempt (offsite)	retain
595		Oregon ash	*Fraxinus latifolia*	decid.	18	18	good	fair	Over property line (east), one sided, leans south	exempt (offsite)	retain
603		Oregon ash	*Fraxinus latifolia*	decid.	9	9	fair	poor	moderately suppressed, poor trunk taper	exempt (<10" DBH)	retain
604		Oregon ash	*Fraxinus latifolia*	decid.	22	25	fair	fair	codominant at 2', 10" codominant stem is dead, one sided	sig. grove tree	retain
605		black cottonwood	*Populus trichocarpa*	decid.	52	20	good	fair	dead branches in crown	sig. grove tree	retain
606		Oregon ash	*Fraxinus latifolia*	decid.	15	15	fair	fair	overtopped by adjacent trees, marginal trunk taper	sig. grove tree	retain
610		Oregon ash	*Fraxinus latifolia*	decid.	17	17	fair	fair	history of branch failure	sig. grove tree	retain
614		Douglas-fir	*Pseudotsuga menziesii*	conif.	14	9	fair	fair	trunk sweep, moderately thin crown	sig. grove tree	retain
616		Oregon ash	*Fraxinus latifolia*	decid.	24	12	poor	very poor	extensive trunk decay behind lean	exempt (hazardous, dead, or diseased)	retain
618		Oregon ash	*Fraxinus latifolia*	decid.	13	10	fair	fair	history of branch failure	sig. grove tree	retain
621		Oregon ash	*Fraxinus latifolia*	decid.	47	25	fair	poor	history of leader failure, extensive trunk decay	sig. grove tree	retain
622		n/a	n/a	n/a	n/a	n/a	n/a	n/a	not located	n/a	n/a
623		n/a	n/a	n/a	n/a	n/a	n/a	n/a	not located	n/a	n/a
625		Oregon ash	*Fraxinus latifolia*	decid.	13	18	fair	fair	partial uproot but stabilized	sig. grove tree	retain
626		Oregon ash	*Fraxinus latifolia*	decid.	24	30	fair	poor	multiple leaders at ground level, significant decay in east stem	sig. grove tree	retain
627		Oregon ash	*Fraxinus latifolia*	decid.	29	30	good	fair	multiple leaders at ground level	sig. grove tree	retain
628		Oregon ash	*Fraxinus latifolia*	decid.	13	12	fair	poor	poor trunk taper, history of branch failure	sig. grove tree	retain

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
629		Oregon ash	*Fraxinus latifolia*	decid.	17	5	fair	poor	codominant at ground level, poor trunk taper, history of branch failure	sig. grove tree	retain
630		Oregon ash	*Fraxinus latifolia*	decid.	17	28	fair	fair	multiple leaders at ground level, history of branch failure	sig. grove tree	retain
631		n/a	n/a	n/a	n/a	n/a	n/a	n/a	same as tree 630	n/a	n/a
632		n/a	n/a	n/a	n/a	n/a	n/a	n/a	same as tree 630	n/a	n/a
633		Oregon ash	*Fraxinus latifolia*	decid.	29	15	fair	poor	multiple leaders at 5' with failed leader, signficant decay at lower trunk	sig. grove tree	retain
634		Oregon ash	*Fraxinus latifolia*	decid.	9	10	fair	fair	one sided, overtopped by adjacent trees, dead branches	exempt (<10" DBH)	retain
635		Oregon ash	*Fraxinus latifolia*	decid.	11	16	fair	fair	one sided	sig. grove tree	retain
636		Oregon ash	*Fraxinus latifolia*	decid.	14	12	fair	fair	codominant at 3', one sided	sig. grove tree	retain
639		Oregon ash	*Fraxinus latifolia*	decid.	19	22	good	fair	history of branch failure	sig. grove tree	retain
640		Douglas-fir	*Pseudotsuga menziesii*	conif.	13	14	fair	fair	overtopped by adjacent trees, one sided, pistol butt	sig. grove tree	retain
641		Douglas-fir	*Pseudotsuga menziesii*	conif.	8	11	good	fair	one sided	exempt (<10" DBH)	retain
643		Oregon ash	*Fraxinus latifolia*	decid.	29	28	good	fair	codominant at 2'	sig. grove tree	retain
645		black cottonwood	*Populus trichocarpa*	decid.	11	10	good	fair	one sided	sig. grove tree	retain
646		black cottonwood	*Populus trichocarpa*	decid.	16	16	good	fair	one sided	sig. grove tree	retain
647		black cottonwood	*Populus trichocarpa*	decid.	19	16	good	fair	pressed against tree 646	sig. grove tree	retain
648		black cottonwood	*Populus trichocarpa*	decid.	17	16	good	fair	moderately one sided	sig. grove tree	retain
649		black cottonwood	*Populus trichocarpa*	decid.	44	21	fair	fair	history of branch failure	sig. grove tree	retain
649.1		black cottonwood	*Populus trichocarpa*	decid.	24	20	fair	fair	history of branch failure, added to site map in approximate location by arborist	sig. grove tree	retain

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
649.2		Oregon ash	*Fraxinus latifolia*	decid.	12	15	good	fair	moderately one sided, added to site map in approximate location by arborist	sig. grove tree	retain
663		Scouler's willow	*Salix scouleriana*	decid.	n/a	n/a	very poor	very poor	Over property line (south), failed?	n/a	n/a
663.1		Oregon ash	*Fraxinus latifolia*	decid.	15	15	good	fair	one sided, duplicate tree number on plan so added .1	sig. grove tree	retain
664		Douglas-fir	*Pseudotsuga menziesii*	conif.	12	12	fair	poor	partial uproot but stabilized, one sided	sig. grove tree	retain
664.1		Oregon ash	*Fraxinus latifolia*	decid.	27	22	fair	fair	multiple leaders at 15', history of branch failure, added to site map in approximate location by arborist	sig. grove tree	retain
664.2		Oregon ash	*Fraxinus latifolia*	decid.	15	15	fair	fair	history of branch failure, codominant at ground level, added to site map in approximate location by arborist	sig. grove tree	retain
667		Oregon ash	*Fraxinus latifolia*	decid.	16	15	good	good		sig. grove tree	retain
	2538	ponderosa pine	*Pinus ponderosa*	conif.	6	4	good	fair	overtopped by adjacent trees, moderately suppressed, marginal trunk taper, PCD will add to plan, located within vehicle easement area, not included in tree preservation covenant	exempt (<10" DBH)	remove
	2539	Douglas-fir	*Pseudotsuga menziesii*	conif.	6	3	fair	fair	overtopped by adjacent trees, moderately suppressed, PCD will add to plan, located within vehicle easement area, not included in tree preservation covenant	exempt (<10" DBH)	remove
	2561	Douglas-fir	*Pseudotsuga menziesii*	conif.	9	6	fair	fair	moderately suppressed, marginal trunk taper, identified on tree preservation covenant	exempt (<10" DBH)	remove
	2562	sweet cherry	*Prunus avium*	decid.	9	0	very poor	very poor	dead, identified on tree preservation covenant	exempt (<10" DBH)	remove
	2563	ponderosa pine	*Pinus ponderosa*	conif.	7	3	good	fair	marginal trunk taper, identified on tree preservation covenant	exempt (<10" DBH)	remove

Attachment 2

Tree No.	Trillium No.	Common Name	Scientific Name	Decid. or Conif.	DBH[1]	C-Rad[2]	Condition[3]	Structure[3]	Comments	Tree Type	Treatment
	2588	n/a	n/a	n/a	n/a	n/a	n/a	n/a	not present, identified on tree preservation covenant	n/a	n/a
	2536	Douglas-fir	*Pseudotsuga menziesii*	conif.	14	12	good	fair	one sided, marginal trunk taper, identified on tree preservation covenant	sig. grove tree	remove
	2537	Douglas-fir	*Pseudotsuga menziesii*	conif.	12	8	fair	fair	one sided, moderately thin crown, marginal trunk taper, identified on tree preservation covenant	sig. grove tree	remove
	2540	Douglas-fir	*Pseudotsuga menziesii*	conif.	12	8	fair	fair	marginal trunk taper, moderately thin crown, identified on tree preservation covenant	sig. grove tree	remove
	2541	Douglas-fir	*Pseudotsuga menziesii*	conif.	21	12	fair	fair	one sided, moderately thin crown, identified on tree preservation covenant	sig. grove tree	remove
	2541.1	bigleaf maple	*Acer macrophyllum*	decid.	6	10	fair	fair	overtopped by adjacent trees, moderately suppressed, PCD will add to plan, located within vehicle	sig. grove tree	remove
	2542	Douglas-fir	*Pseudotsuga menziesii*	conif.	21	15	good	fair	one sided, identified on tree preservation covenant	sig. grove tree	remove
	2560	ponderosa pine	*Pinus ponderosa*	conif.	22	15	good	fair	moderately one sided, identified on tree preservation covenant	sig. grove tree	remove
	2564	Douglas-fir	*Pseudotsuga menziesii*	conif.	21	12	good	fair	moderately one sided, identified on tree preservation covenant	sig. grove tree	remove
	7061	Douglas-fir	*Pseudotsuga menziesii*	conif.	33	16	fair	fair	moderately one sided, moderately thin crown, identified on tree preservation covenant	sig. grove tree	remove

[1]**DBH** is the trunk diameter measured according to the International Society of Arboriculture standards in inches. In cases where the tree splits into multiple trunks at ground level, DBH is the square root of the sum of the squared DBH of each stem.

[2]**C-rad** is the approximate crown radius in feet.

[3]**Condition** and **Structure** ratings range from very poor, poor, fair, to good.

[4]**Exempt** trees include hemlock, madrone, and bigleaf maples less than 6-inch DBH, any other species less than 10-inch DBH, trees listed a nuisance species on the Metro Native Plant List (Ord. No. 98-730C) or Beaverton Development Code Section 40.90.10, trees producing edible fruits, hazardous, dead, or diseased (trees with a condition rating of very poor or poor), offsite trees, and stumps. Note that although hemlock, madrone, and bigleaf maples between 6- and 10-inch DBH are surveyed trees, they are not considered community trees and thus are "exempt".

Attachment 3
Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. The information provided by Emerald Engineering & Construction Company and other members of the project team was the bases of the information provided in this report.
2. It is assumed that this property is not in violation of any codes, statutes, ordinances, or other governmental regulations.
3. The consultant is not responsible for information gathered from others involved in various activities pertaining to this project. Care has been taken to obtain information from reliable sources.
4. Loss or alteration of any part of this delivered report invalidates the entire report.
5. Drawings and information contained in this report may not be to scale and are intended to be used as display points of reference only.
6. The consultant's role is only to make recommendations. Inaction on the part of those receiving the report is not the responsibility of the consultant.
7. This report is to certify the trees that are on site, assess their conditions and structures, evaluate the feasibility of their retention, and provide recommendations to adequately protect the trees to be retained. In conjunction with the findings, site plans, and graphics in the concurrent Tree Plan Two application provided by others, this report will satisfy the tree related requirements in City of Beaverton Development Code Chapters 40.90 and 60.60.